

Jan. 6, 1925.

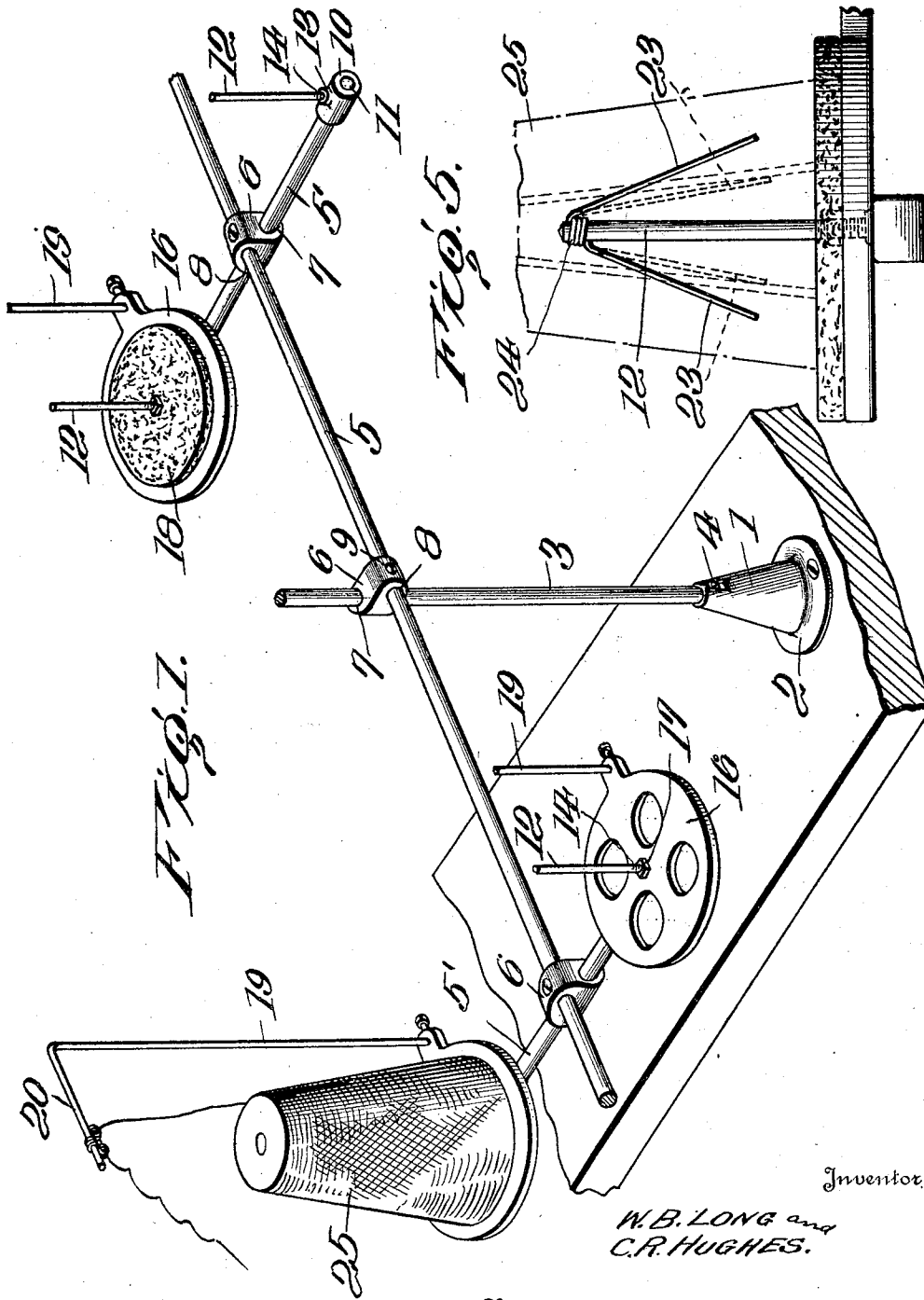
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W. B. LONG ET AL

THREAD SPOOL STAND

Filed Jan. 16, 1923

2 Sheets-Sheet 1



By

Sturtevant & Mason Attorneys

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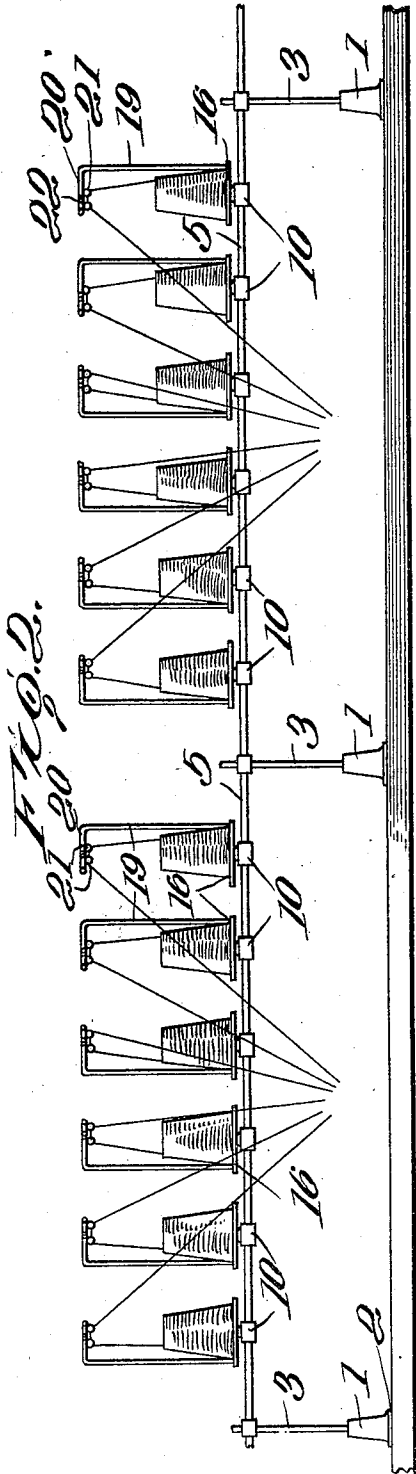
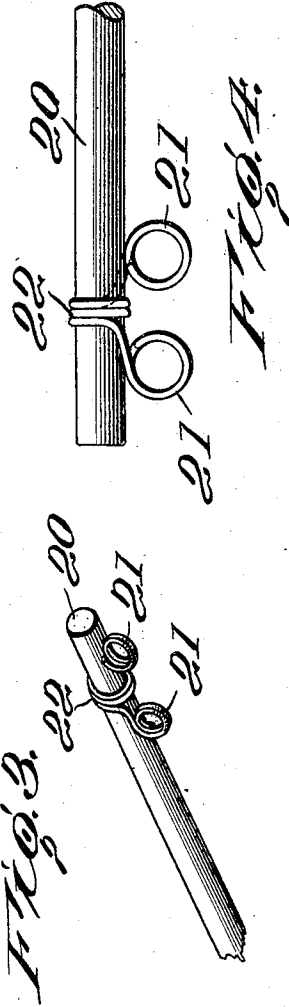
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Inventors
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UNITED STATES PATENT OFFICE.

WILLIAM B. LONG AND CHARLES R. HUGHES, OF CHICAGO, ILLINOIS, ASSIGNORS TO
UNION SPECIAL MACHINE COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF
ILLINOIS.

THREAD-SPOOL STAND.

Application filed January 16, 1923. Serial No. 612,972.

To all whom it may concern:

Be it known that we, WILLIAM B. LONG and CHARLES R. HUGHES, citizens of the United States, residing at Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Thread-Spool Stands, of which the following is a description, reference being had to the accompanying drawing, and to the figures of reference marked thereon.

This invention relates to thread spool stands for sewing machines and the like, and more particularly to a multiple spool stand.

In factory installations, in the stitching rooms, for instance, where several hundred multiple needle sewing machines are in constant operation, it has heretofore been the general practice to provide each machine with a separate thread spool stand. As these stands necessarily varied in design and arrangement in accordance with the number of needles of the particular machine which each supplied, the excessive cost of providing and keeping on hand a large number and variety of such stands has always been a source of expense and annoyance.

The present invention aims at providing a thread spool stand which is easily convertible merely by the addition or rearrangement of parts to accommodate and support any desired number or combination of spools in operative position to the desired number of sewing machines irrespective of their arrangement.

Another feature of the invention resides in providing such a spool stand composed of a minimum variety of duplicate units including interchangeable couplings and spool-carrying sleeves whereby the stand may be readily converted as desired.

An ancillary feature of the invention resides in providing the supporting rods with spool-carrying sleeves adjustable therealong and in providing each sleeve with a spool carrying spindle constructed and arranged to lock the sleeve in desired position on the rod.

Still another feature of the invention resides in the manner of supporting the spool-carrying disks on the spool spindle and in the manner of supporting the thread guides in operative position above the spools.

A further object of the invention resides

in providing a simple means for holding the spools on the stands so that the spools are operable either in vertical or tilted position, and more particularly in providing such retaining means as a simple attachment to the spool spindle, so constructed as to automatically grip the spindle and the spool when the latter is placed on the spindle.

Yet a further feature of the invention relates to the novel wirethread guide.

These and other objects will be apparent from a perusal of the following specification when taken in connection with the accompanying drawings, wherein—

Figure 1 is an elevational view of one form of the invention;

Fig. 2 is a modification thereof;

Figures 3 and 4 are detail views of the thread guide, and

Fig. 5 is a detail view of the spool retaining means.

Referring now to the drawings, in its simplest form, the invention embraces a base of any desired construction adapted to be secured on a support in operative relation to a machine or machines. A simple and convenient type of base comprises the preferably cast iron conically shaped foot piece 1, having bores 2 by which it may be screwed to the support or sewing machine table. The upper end of the foot is vertically bored to support an upstanding or vertical rod 3 which is held in position by a set screw 4. Rod 3 is of any desired length.

Means is provided for horizontally and adjustably supporting from rod 3, a second supporting rod 5 of the same cross section as rod 3. This means preferably comprises one of a series of identical couplings or connections 6, which are provided with angularly arranged bores 7 and 8, and a smaller bore 9 receiving a set screw. The diameter of these bores corresponds to the diameters of the rods 3 and 5.

The horizontal rod 5 is adapted to optionally receive thereon either certain spool-spindle carrying sleeves or additional couplings 6. To this end, there is provided a series of detachable sleeves 10 having bores 11 of diameters corresponding to that of the couplings and rods. By constructing these supporting rods of uniform cross section, and by providing these detachable sleeves and couplings with bores of cross section corresponding to the rods, the sleeves

and couplings can be interchangeably adjusted on the rods in any desired manner. This construction permits the stand to be readily rearranged and added to. For instance, the sleeves 10 may be placed on rod 5 at desired points therealong for carrying the spools directly on the rod or in lieu thereof, the coupling 6 may be adjusted on the rod at desired points to carry additional spool bearing members such for instance as further horizontal rods 5' as shown in Fig. 1.

By removing the end couplings 6 and transverse horizontal rods from the horizontal rod 5, Fig. 1, and substituting a desired number, one or more, of the sleeves 10 for supporting the spools, a simple stand is provided wherein the spools are supported directly in line with the rod.

A novel construction is used for providing these sleeves with vertical spool spindles 13 and also for locking the sleeves in adjusted position on the rod 5'. To this end, each sleeve is provided with a lateral bore 13 into which screws the lower threaded end 14 of a spool spindle 12. This lower end of the spindle 12 thus coming in contact with rod 5' accomplishes this locking function. Each spool spindle is preferably provided with a spool supporting disk 16 of desired shape and provided with a central bore to receive the spindle. A nut 17 may be used to hold the disk in position and a centrally perforated felt pad 18 may be placed on the disk if desired.

And each spool thus vertically supported is provided with a preferably overhanging thread guide. Accordingly, a convenient portion of each disk 16 is bored to receive an upstanding rod 19 having an upper horizontally disposed arm 20 provided with a preferably detachable thread guide. This guide consists of a continuous length of piano wire bent and looped to form two spaced eyes 21 arranged in substantially the same plane with the longitudinal axis of this arm 20 and an intermediate series of transversely arranged loops 22 adapted to fit upon and firmly grip arm 20. This provides a simple inexpensive and readily detachable thread guide.

As before stated and as illustrated in Fig. 1, in cases where it is desirable to support spools in a line arranged at an angle, preferably right angle, to the horizontal rod 5, the sleeves 10 thereon are removed and couplings 6 are placed thereon. These couplings then serve to support the additional horizontal rod or rods 5', according to the number of couplings used in transverse relation to the rod 3. Any desired number of the sleeves 10 may then be placed on such transversely arranged horizontal rods to support the spools as indicated in Fig. 1 of the drawings.

This same arrangement may be duplicated by adding another coupling 6 to the vertical rod 3 above the first coupling as illustrated, thereby making a two high spool stand. Any combination of the foregoing arrangements may be extended to accommodate a plurality of machines.

In certain instances, where it is desirable to support a single line of spools, such for instance as a single line of three lengths of six spools each to feed three machines, the arrangement shown in Fig. 2 may be used. In this case, a plurality of bases 1 and vertical rods 3 are spaced apart in line to support by means of the couplings 6, a horizontal rod 5' of desired length, or its equivalent—a plurality of horizontal rods suitably joined together. The desired number of sleeves 10' are then located as illustrated.

In some instances, it is desirable to operate the spool stands in a tilting position and to this end, means is provided for positively holding the spools on the stands. A simple embodiment of this means is illustrated in Fig. 5 of the drawings, comprises the spring spool gripping fingers 23. These fingers are preferably formed from a single length of wire of relatively large cross section, the wire intermediate its length being coiled as at 24 to receive therethrough the spool spindle 12.

It will be noted that the fingers 23 are normally set at such an angle to the spindle 12 so as to engage the inner wall of the spool cone 25 when placed over said fingers. When the finger 23 on the right, as viewed in Fig. 5, is pressed into the dotted line position, it will cause the upper coil 24 to be tilted to an inclined position greater than that shown in the drawings. Likewise, when the finger 23 on the left is moved into the dotted line position, it will cause the coil to which it is attached to be inclined downwardly, and this will in turn incline the intermediate coils so that the coils will grip the spindle and this will prevent the spool supporting member from slipping off the spindle. Thus it will be seen that the spindle may be inclined to the vertical, and when the spool cone is placed on these retaining fingers it will cause the coils to grip the spindle, so that the coils will not slip off from the same. At the same time the entire cone of the spool may be pulled off from the fingers when desired.

A modification of this arrangement would be a double row installation of fourteen spools, seven in a row, feeding to machines on opposite sides. If desired, a double deck arrangement may be used either in this arrangement, or as in the suggested modification of Fig. 1, by extending the vertical rods and adding the necessary couplings thereto.

From the foregoing it is obvious that other combinations and arrangements may

be constructed and that the invention is not intended to be limited to the exact forms shown, except in so far as the claims are limited in scope as interpreted by the prior art.

Having thus described the invention, what we claim as new and desire to secure by Letters-Patent, is—

1. A spool stand for sewing machines comprising a base adapted to be attached to a support in operative machine position, a vertical rod carried thereby, a second rod, means for horizontally supporting said second rod from said vertical rod, a bored sleeve fitting on said horizontal rod, said sleeve having an additional bore, and a vertical spool spindle fitting said bore and engaging said horizontal rod to lock said sleeve in position thereon.

2. A spool stand for sewing machines comprising a rod horizontally mounted in operative relation to a sewing machine, a detachable sleeve having a bore freely receiving said rod, a detachable spool spindle carried by said sleeve and adapted to lock said sleeve on said rod, a detachable spool-supporting disk having a central bore receiving said spindle, and a thread guide detachably carried by said disk.

3. In a device of the character described, the combination of a rodlike spool spindle, a detachable spool holder therefor comprising a plurality of normally extended spring fingers adapted to receive the spool and constructed and arranged to resiliently grip the inner walls thereof when said spool is placed thereon, said fingers forming an integral

coil at their junction to frictionally grip said rodlike spool spindle.

4. In a device of the character described, the combination of a spool spindle, a detachable spool holder therefor comprising a plurality of normally extended spring fingers adapted to freely receive the spool thereon and constructed and arranged to resiliently grip the inner walls of said spool, and means for mounting said fingers on a spool spindle, said means being constructed and arranged to automatically grip said spindle when the spool is placed on said fingers.

5. In a device of the character described, the combination of a spool spindle, a detachable spool holder therefor comprising a plurality of normally extended spring fingers adapted to freely receive the spool thereon and constructed and arranged to resiliently grip the inner walls of said spool, and means for detachably mounting said fingers on a spool spindle, said means being constructed and arranged to automatically grip said spindle when the spool is placed on said fingers.

6. A spool holder adapted to be carried by a spool spindle comprising a single length of wire coiled between its ends to receive the spool spindle therethrough, the free ends of said wire being normally bent outwardly and away from said coil to provide outwardly spreading fingers adapted to grip the spool.

In testimony whereof, we affix our signatures.

WILLIAM B. LONG.
CHARLES R. HUGHES.